

III. AMENDMENTS TO THE SPECIFICATION

Substitute Abstract

Please replace the Abstract as originally filed with the following Abstract:

A method of designing a vehicle air system is provided. This method includes the use of a computer to simulate operation of a proposed vehicle air system over a time period, wherein the proposed vehicle air system comprises an air compressor and a pneumatically operable device, and wherein the step of simulating operation of a proposed vehicle air system over a time period includes: simulating selective operation of the air compressor to add air to the proposed vehicle air system; and simulating selective operation of the pneumatically operable device to exhaust air from the proposed vehicle air system. The computer is then used to calculate a duty cycle of the air compressor over the time period and to output the duty cycle.

Substitute Paragraphs

Please replace the last paragraph on page 1 of the application as originally filed with the following paragraph:

On the other, in an effort to ensure an ample supply of clean, dry compressed air, the vehicle air system designer may select an air compressor and drier combination that is overly capable for a given application. This, then, needlessly increases the cost and weight of the vehicle.

Please replace first paragraph of the “Summary of Invention” section of the application as originally filed with the following paragraph:

In accordance with a first aspect of the present invention, a method of designing a vehicle air system includes using a computer to simulate operation of a proposed vehicle air system over a time period. The proposed vehicle air system includes an air compressor and a pneumatically operable device. The computer is used to calculate a duty cycle of the air compressor over the time period, thereafter outputs the duty cycle. This method also includes the step of inputting vehicle use information that describes expected operation conditions of the proposed vehicle air

system over the time period, wherein the step of simulating selective operation of the pneumatically operable device to exhaust air from the proposed vehicle air system includes simulating operation of the pneumatically operable device at intervals that vary depending upon the input vehicle use information.

Please replace the last paragraph on page 11 of the application as originally filed with the following paragraph:

Specifically, for each auxiliary system selected to be included in the analysis, the user is required to enter at least: (1) the average amount of air consumed by the auxiliary system/device during its operation; and (2) the volume from which the air loss occurs. Concerning item (1), the average air consumed, the user can enter this value using one of three different parameters -- (a) pressure/volume in terms of pounds per square inch (psi) or the like; (b) flow rate in terms of cubic feet per minute (cfm) or the like; or, (c) a pressure drop rate in terms of psi/minute. Thus, regardless of the air usage rate units known by the user for a particular auxiliary system/device, the user will be able to enter this information without performing a units conversion operation. Concerning item (2) above, the volume from which the air loss occurs, the user can also select one of three predefined volumes -- (a) the overall vehicle air system volume; (b) a separate volume (i.e., reservoir) of the auxiliary system/device; or, (c) both the overall vehicle air system volume and a volume maintained by the auxiliary system/device. In the cases (b) and (c), where the air loss occurs at least partially from the auxiliary system/device, the user is prompted to enter the auxiliary system/device volume.